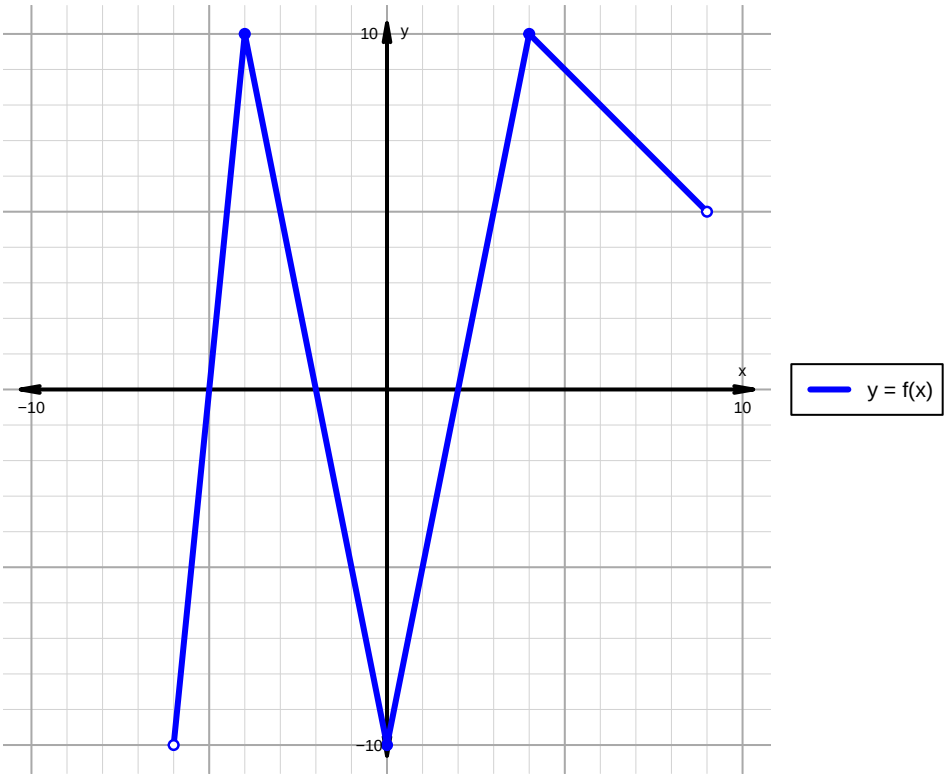
Name: Date:

Intervals, Transformations, and Slope Solution (version 34)

1. The function f is graphed below.



Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-5,-2)\cup(2,9)$
Negative	$(-6,-5)\cup(-2,2)$
Increasing	$(-6,-4)\cup(0,4)$
Decreasing	$(-4,0)\cup(4,9)$
Domain	$(-6,9)$
Range	$(-10,10)$

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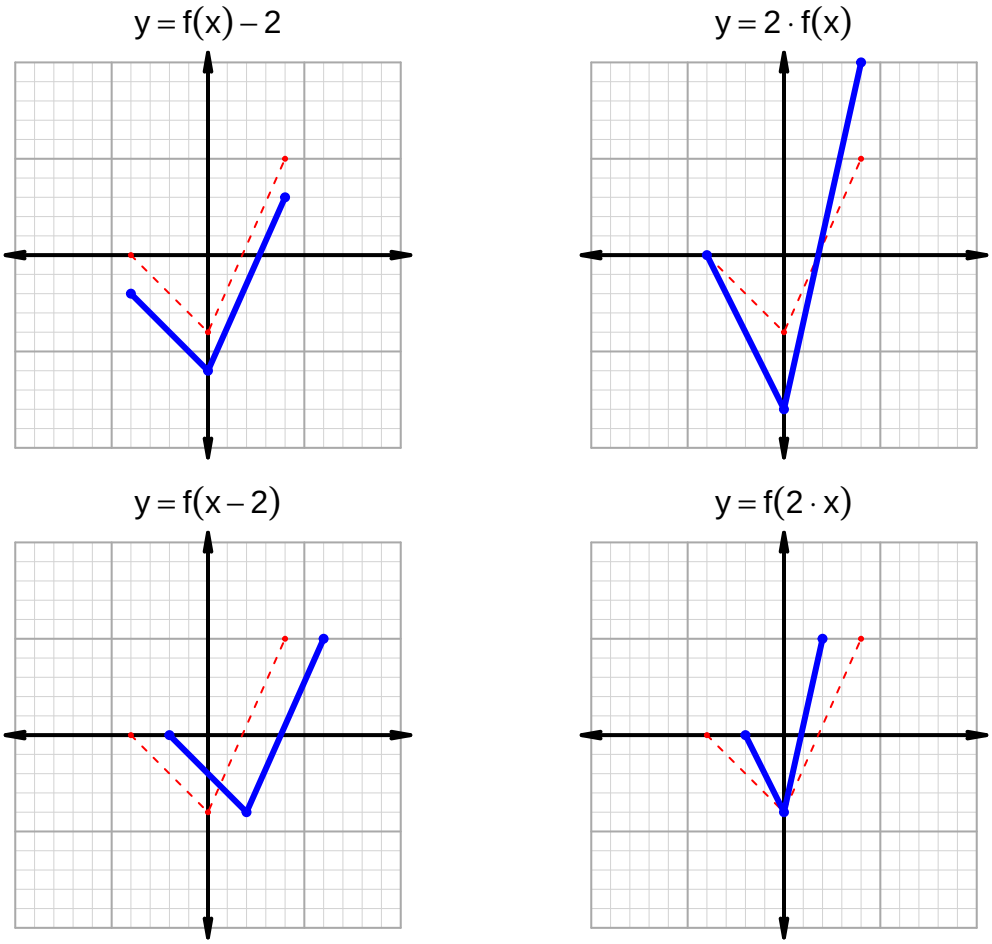
2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 16$ and $x_2 = 51$. Express your answer as a reduced fraction.

x	$g(x)$
16	40
40	51
51	96
96	16

$\frac{f(51)-f(16)}{51-16} = \frac{96-40}{51-16} = \frac{56}{35}$

The greatest common factor of 56 and 35 is 7. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{8}{5}$$